CLAIMS

1. A catalyst for the production of an oxygen-containing compound, which is used for a process of producing an oxygen-containing compound by reacting an olefin and oxygen, said catalyst being represented by the following formula:

Pd/W_aZrO_x

[wherein Pd is a palladium-containing compound, a is a W/Zr molar ratio, and x is a value defined by the oxidized state of tungsten (W), zirconium (Zr) and palladium (Pd)].

2. The catalyst for the production of an oxygen-containing compound according to claim 1, wherein the content of palladium element in said catalyst is from 0.001 to 15 parts and the W/Zr molar ratio is from 0.01 to 5.0.

3. The catalyst for the production of an oxygen-containing compound according to claim 1, wherein said olefin is ethylene and said oxygen-containing compound is acetic acid.

4. The catalyst for the production of an oxygen-containing compound according to claim 1, wherein said olefin is propylene and said oxygen-containing compound is at least one compound selected from acetone, propionaldehyde, propionic acid and acetic acid.

5. The catalyst for the production of an oxygen-containing compound according to claim 1, wherein said olefin is at least one member selected from 1- butene, cis-2-butene and trans-2-butene, and said oxygen-containing compound is at least one compound selected from methyl ethyl ketone, n-butylaldehyde, butyric acid, propionaldehyde, propionic acid, acetaldehyde and acetic acid.

6. A process for producing a catalyst for the production of an oxygen-containing compound, which is a process of producing the catalyst for the production of an oxygen-containing compound according to any one of

claims 1 to 5, said process comprising the following first and second steps:

First Step:

a step of causing a tungsten compound and a zirconium compound to coexist and heat-treating these compounds to produce a compound represented by the following formula:

W_aZrO_y

[wherein a is a W/Zr molar ratio, and x is a value defined by the oxidized state of tungsten (W), and zirconium (Zr)];

Second Step:

a step of loading palladium compound on the compound W_aZrO_x obtained in the first step to obtain a catalyst for the production of an oxygen-containing compound.

7. The process for producing a catalyst for the production of an oxygen-containing compound according to claim 6, wherein in said first step, the heat-treatment temperature is from 400 to 1,200°C.

8. A process for producing an oxygen-containing compound, comprising reacting an olefin and oxygen in a gas phase in the presence of the catalyst for the production of an oxygen-containing compound according to claim 1.

9. A process for producing acetic acid, comprising reacting ethylene and oxygen in a gas phase in the presence of the catalyst for the production of an oxygen-containing compound according to claim 1.